

# Planning and Designing Today's Career Tech Facility



▲ The Penta Career Center, Perrysburg, Ohio, demonstrates the modern use of materials and a strong central entry point.

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By James Seaman

**DURING THE PAST 20 YEARS, CAREER AND TECHNICAL EDUCATION (CTE)** has gone through significant changes. CTE has evolved in response to the changes technology has had on the job market. Preparing students for high-tech, high-skill job opportunities is the new focus. The facilities that house these programs, however, have not kept pace with these changes. Beyond that, older, out-of-date facilities can perpetuate the misconception that CTE spaces are “vo-tech” centers. In the planning and design stages of CTE facilities, administrators

and their architects must consider these factors, as well as many others. The following points will serve as inspiration for new or renovated CTE facilities:

- The importance of image
- How simulating a work environment is beneficial to students
- Creating flexibility
- Integrating technology through layering
- Letting the building serve as a teaching tool
- Designing green

## Image

The image of a new or extensively renovated CTE facility is an important factor to consider. Over time, a general perception of these facilities has evolved. Many parents, for example, hold the view that CTE is the old “vo-tech” that they were familiar with during their own school years. They are unaware that today’s programs include high-tech, high-skill training and many CTE students pursue postsecondary education. CTE is a stepping stone for many of these students, providing them with the education and training necessary to successfully pursue their postsecondary endeavors. “Career tech education is no longer a secondary route to success,” says Julie Walker, principal at Saginaw Career Complex, Saginaw, Michigan. “It is an application-based teaching method that not only prepares students for success in college, but teaches students the real-world skills to begin high-tech, high-skill and high-wage careers.”

One way to combat the old “vo-tech” misconception is to change the image of a facility. Often the challenge is to create a building that effectively conveys a message that what is being taught within is high-tech, relevant training. Creating an image can be accomplished in many different ways, and the process begins with a clear definition of the desired image. One area that will have a large impact on the building image is material selection. Materials such as metal panels and glass, as opposed to conventional brick, can give the building a sleek, high-tech look. Brick can be used, however, in combination with glass and metal to give the building a warmer, more inviting feel.

Next, the layout of the building should

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be considered. A strong central entry point will give a building a sense of identity and will welcome and invite visitors inside. The design team should also seek opportunities to visually expose CTE programs. This can be achieved by placing windows in the classroom or lab spaces with views from corridors. This visual connection provides not only an opportunity to familiarize students with one another, but also serves as a marketing tool for prospective students. By exposing the mechanics of CTE programs to passersby, the "curtain" is pulled back to reveal the real learning and training that is taking place inside.

### Simulate the Work Environment

Students should learn in an environment that resembles what they will encounter in the real world. A workplace environment reinforces what is being taught by providing a full sensory, hands-on experience. But a challenging aspect in planning and designing such spaces is that they must also function well for teaching. For example, a cosmetology classroom should include many of the spaces found in a typical spa or salon. A reception/waiting area can be used to teach students soft skills such as greeting customers and handling transactions. The main teaching space should also resemble a typical salon layout, but designers must ensure that sightlines and views to instructors from the workstations are clear.

### Flexible Spaces

Designers and administrators alike must plan for flexibility. Technology itself has changed many aspects of the workplace. For this reason, and others, it is important to remain flexible. When planning spaces, the design team should look at the entire

building holistically. A similar sized module can be used for planning purposes. For example, within a 30' by 30' grid, the spaces can be unique to a particular program, and yet generic enough that they can be reused when programs evolve. Also, designers should always plan for future expansion in logical areas. Built-in cabinets or casework should be planned wisely since they tend to be more permanent in nature. Another option for storage needs is mobile units. Mobility allows for seamless reconfiguration. In tandem with flexible storage is flexible furniture. Mobile and opportunely shaped tables afford the option to reconfigure, depending on specific lesson plans.

### Layering of Technology

Technology should be considered as a layer. As technology continues to change, what is installed now may be obsolete in a short time. The idea is that technology should be a layer within the building, as opposed to fully integrated, so that it is relatively easily removed and updated. Technology treated with full integration—a recessed monitor built into a wall, for example—will make it considerably more difficult to replace after new technology emerges. In this case, not only must the monitor be replaced, but the wall condition must also be renovated. When planning for the integration of technology, consider also its disintegration.

### Let the Building be a Teaching Tool

In its most superficial sense, a building functions as a container for programs. In CTE, many programs involve the building or construction trades. In this case, letting the building serve as a teaching tool is a perfect fit. For instance, expos-

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▲ This cosmetology classroom simulates a real-world work environment.



▲ Exposed structure and mechanical systems can be used as teaching tools.

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ing mechanical and electrical systems as well as the building's structure allows instructors to use the building elements as a functioning example for construction trades students. This technique is not only applicable in lab spaces, but also in classrooms. Many lessons about building systems will be covered through bookwork in the classroom. These lessons can be supplemented, referenced and studied

if the systems they focus on are directly integrated into the rooms themselves.

## Greening Career Tech Spaces

The green movement has never been more relevant than it is today. According to a recent report issued by the U.S. Conference of Mayors, there are currently more than 750,000 green jobs, and by 2018, there will be more than 2.5 million.

It is very clear that green technology is here to stay. The ambiguity of which branch of green technology will be prevalent is a struggle that schools face as they integrate these types of programs into their curriculum. Two approaches can be taken: the establishment of new programs, or implementing green practices into existing programs. In either case, by creating buildings that use green design principals and systems, the programs and curriculum they house will be stronger for it. Instructors can use the green technology in a building as an opportunity for demonstration. For example, a geothermal heat pump system can be used to heat and cool the entire building, while a portion of the system can feed residential-sized heat pumps used for demonstration in a class for HVAC students. The implementation of green standards represents a step forward in defining these new programs, and can also provide long-term financial savings.

## A Winning Design

Many of these design and planning concepts—image, flexibility, technology layering—are intended to overlap and reinforce one another. Each CTE facility is unique and needs to be examined on a case-by-case basis. Using these ideas to stimulate discussion, research and analyses will assist in designing a facility that is well integrated with its programs, and one that is a source of pride for a school or district. **■**

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